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(71) Applicant: MCKINSEY & COMPANY, INC. [US/US];
55 East 52nd Street, 21st Floor, New York, NY 10022 (US).

(72) Inventors: COOK, Thomas, M.; 4415 South Versailles,
Dallas, TX 75205 (US). FARKAS, Andras; 9 Vercse u.,
H-1124 Budapest (HU). HOPP, Anthony, D.; 1724
Meadowdale Avenue, Springfield, IL 62707 (US). SKIN-
NER, Steven, Glenn; 1724 Meadowlane Avenue, Atlanta,
GA 30306 (US).

(74) Agents: PRATT, John, S. et al.; Kilpatrick Stockton LLP,
1100 Peachtree Street, Suite 2800, Atlanta, GA 30309
(US).

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(54) Title: GOODS/SERVICES MANAGEMENT SYSTEM

(57) Abstract:

GOODS/SERVICES MANAGEMENT SYSTEM

Technical Field

The present invention relates generally to systems operable to perform
5 management of goods, services, or other inventory items, and thereby increase operation
efficiency; and, more particularly, it relates to management of substantially perishable or
scarce items and maximization of efficiencies in the sales, leases, or other transactions
relating to those items.

10 Related Art

Companies offering perishable or scarce goods, services, or other items commonly
employ conventional methods of managing the inventory of those items and revenue
derived therefrom. These conventional management methods often fail to maximize the
efficiency of inventory conversion and the amount of associated revenue. For example,
15 while conventional management systems include various means for predicting demand,
such systems are often inflexible, in that, once items are identified or committed as sold,
there are limited means for returning such items to inventory should the company
experience an unanticipated demand for such items. In that sense, conventional
management systems are reactive since the adjustments that can be made for an
20 unanticipated demand are limited by the items remaining in inventory. Of course, when
such items are scarce or highly perishable, the company often cannot meet that
unanticipated demand by obtaining additional inventory from outside the company.

For example, in the airline industry which itself offers highly perishable goods -
specific seats on an aircraft during a specific flight - a company will often over-sell seats
25 for a flight based on projected demand. When more passengers arrive for a flight than
there are available seats, the airline will typically solicit volunteers to give up their seats
in exchange for some incentive at the gate. This method is inherently expensive, in that,
there is a large associated inconvenience that is being passed onto the passengers.
Airlines typically need to present very desirable incentives to persuade passengers at the
30 gate to relinquish their seats. There is inherently an unpredictability in being able to
recoup those costs that are necessary to persuade some passengers to exchange their seats
for the incentives presented at the gate.

There is intrinsic uncertainty in this approach, in that, the conventional approach may backfire in costing the airline more money than if it would have not over-sold the flight in the first place. While these two issues (over-booking and re-booking) are distinct issues, there is a common connection between them in terms of maximizing efficiency.

5 From the perspective of one specific airline, the problem is accentuated when the airline must re-book some of those passengers on an alternative airline that may very well be charging a premium for seats at such late notice on alternative flights. This particular illustration shows one such instance where an airline is unable to accommodate its passengers in a highly serviceable manner while maximizing its own profitability, in part
10 due to the inflexibility of management systems.

A second example of a common inventory and revenue management system within the airline industry is the allocation of a certain number of seats to specific fare classes based on periodic estimates of anticipated demand. This effort is ostensibly undertaken to avoid selling too many seats on a particular flight to passengers only
15 willing to pay a lower fare so that seats are available for those willing to pay a higher fare, albeit at a date and time closer to departure. This method can be ineffective, leaving numerous vacant seats if the airline over estimates high fare demand, and therefore reserves too many high fare seats. It can also be ineffective if the airlines underestimate high fare demand, selling too many seats at a low fare and spilling high value customers.
20 Additional deficiencies are evident in the conventional management methods of such systems.

Although the above examples apply to the airline industry, there are other industries offering highly perishable or scarce goods, services, or other items. Those industries include: any common carriers including airlines and railway; hotels; car rentals;
25 cruises; vacation resorts or tours; freight or cargo; ticket services for the theater, concerts, sporting events, or other events; advertisement slots; product ordering for items that are oversubscribed; online orders with time commitments; business to business contracts; etc. As in the airline industry, the failure to adopt sufficiently flexible management systems to take advantage of unexpected changes in demand often leads to a failure to increase
30 operational efficiency.

In addition, conventional management systems do not include a flexible system or method operable across a number of companies within an industry, or across industries, to

adjust for changes in demand and increase efficiencies on a larger scale. The conventional technologies are typically applied on a company by company basis, with the process being tailored to each company, or a specific industry. That is to say, there does not exist a single approach that is adaptable to different industries. For example, using
5 conventional systems, each must be uniquely designed and tailored to different industries.

Further limitations and disadvantages of conventional systems will become apparent to one of skill in the art through comparison of such systems with the present invention as set forth in the remainder of the present application with reference to the drawings.

10

SUMMARY OF THE INVENTION

Various aspects of the present invention can be found in a management system operable to manage any number of services and goods. The goods/services are scarce and/or perishable, and the goods/services are provided by a provider and are purchased by
15 any number of customers. The management system itself contains, among other things, a management interface. The management interface provides communication between each customer and the provider. The management interface identifies the provider with one or both of an actual demand and a projected excess demand for the goods/services. The management interface also identifies a customer that desires to sell an already purchases
20 good/service based on an incentive that is offered by the provider. Then, if the customer agrees to sell his/her good/service, the management interface purchases the good/service from the customer.

In certain embodiments of the invention, the management system also contains a volunteer database that has contact information pertaining to the customers and
25 preferences corresponding to the customers. The management interface uses the contact information and the preferences to identify the customer. The good/service to be re-purchased is categorized as being re-purchasable. If desired, the provider itself independently operates a portion of the management interface. Participating and non-participating providers participate within the management system in various
30 embodiments. A non-participating provider is capable to provide an additional good/service when a participating provider does not provide the good/service.

Alternatively, a participating provider is capable to provide the additional good/service when other participating providers do not provide the good/service. The provider is any type of provider including common carrier providers that provide airline travel. Moreover, the purchase of the good/service is actually a relinquishment of a customer's
5 option to purchase the good/service from the provider in some embodiments of the inventions.

Other aspects of the present invention can be found in a management system that is operable to manage a good/service that is provided by a provider and is solicited by a customer. The management system itself contains, among other things, a management
10 circuitry. The management circuitry provides communication between the customer and the provider. The management circuitry also contains a re-purchase and re-booking circuitry that identifies a category of the customer and a preference of the customer. The management circuitry is operable to perform capacity and inventory tracking of the good/service after receiving from the provider one or both of an actual demand and a
15 projected excess demand pertaining to the good/service. The management circuitry performs one or both of a re-purchase and a re-sell of the good/service that is solicited by the customer based on a category of the customer and a preference of the customer.

In certain embodiments of the invention, the management system performs the re-purchase and a re-sell of the at least one of the good and the service that is solicited by the
20 customer based on both the category of the customer and the preference of the customer. The re-purchase and the re-sell of the good/service is performed at a premium. In various embodiments of the invention, the provider is a common carrier. The management system further contains a volunteer database that itself contains the preference of the customer. Various preferences of the customers solicit the management system,
25 including those having cost-flexible preferences and those having time-flexible preferences. Also, in some embodiments of the invention, the good/service is conditionally, not absolutely, re-purchasable by the provider. In others, the good/service is unconditionally re-purchasable by the provider. Moreover, in some embodiments of the inventions, when the management circuitry performs the re-purchase and the re-sell of
30 the good/service, this actually involves a relinquishment by the customer of an option to purchase the good/service from the provider.

Other aspects of the present invention can be found in a method to perform management of a good/service that is provided by a provider and is solicited by a number of customers. The method involves receiving one or both of an actual demand and a projected excess demand pertaining to a number of goods/services. The actual demand and the projected excess demand are provided by the provider. The method also involves detecting an opportunity to re-purchase a good/service from a time-flexible customer using, as at least one detection criterion, the actual demand and the projected excess demand. The method then re-purchases the good/service from the time-flexible customer, and the method identifies a cost-flexible customer to perform incrementally sell of the good/service to the cost-flexible customer at a premium.

In certain embodiments of the invention, the method also involves comparing a time-flexible demand to a predetermined limit of the goods/services. The re-purchasing of the good/service from the time-flexible customer is performed using an incentive. The provider is a common carrier that provides the service of airline travel in some embodiments of the invention. In addition, the re-purchasing of the good/service from the time-flexible customer is actually a relinquishment of the time-flexible customer's option to purchase the good/service from the provider in some embodiments of the inventions.

Other aspects, advantages, and novel features of the present invention will become apparent from the following detailed description of the invention when considered in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the present invention can be obtained when the following detailed description of various exemplary embodiments are considered in conjunction with the following drawings.

Fig. 1 is a system diagram illustrating an embodiment of a management system built in accordance with the present invention.

Fig. 2 is a system diagram illustrating another embodiment of a management system built in accordance with the present invention.

Fig. 3 is a system diagram illustrating another embodiment of a management system built in accordance with the present invention.

Fig. 4 is a system diagram illustrating another embodiment of a management system built in accordance with the present invention.

Fig. 5 is a system diagram illustrating another embodiment of a management system built in accordance with the present invention.

5 Fig. 6 is a system diagram illustrating another embodiment of a management system built in accordance with the present invention.

Fig. 7 is a functional block diagram illustrating an embodiment of a management method performed in accordance with the present invention.

10 The use of the same reference symbols in different drawings indicates similar or identical items. Circuitry, interface, and functionality are used interchangeably below.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is operable within and across a variety of industries that deal with perishable or scarce goods, services, or other items. As stated previously, common
15 carriers are one example of industries that may use the invention. The invention is operable to be performed by one or more common carriers or other companies, independently or collectively, or by an external third party on behalf of or with one or more of those entities. In alternative embodiments of the invention, it is operable to be performed by specific common carriers within a specific common carrier industry. If
20 desired, the invention is also operable to integrate multiple common carriers across industries, each providing transportation and shipment of people and packages using different means of transport (e.g., airplane, bus, ship).

Fig. 1 is a system diagram illustrating an embodiment of a goods/services management system 100 built in accordance with the present invention. A number of
25 customers are provided an interface to one or more providers of perishable or scarce items. For example, a customer A 182, a customer B 184, a customer C 186, ..., and a customer N 188 all interface with a provider A 192, a provider B 194, a provider C 196, ..., and a provider N 198 through a goods/services management interface 110. Here, the various providers 192-198 are able to target specific customers within the customers 182-
30 188. The goods/services management interface 110 is operable to provide multiple step or real time interaction between the providers 192-198 and the customers 182-188.

Additional functionality provided between the providers 192-198 and the customers 182-188 is shown in various embodiments of the invention below. Fig. 1 is illustrative, among other things, of the fact that the invention is operable to interface one or more providers of perishable or scarce items with customers seeking to acquire those items. The functions of the management interface may be performed by any provider, individually, or in whole or part by a third party on behalf of that provider as explained in further detail herein.

Fig. 2 is a system diagram illustrating another embodiment of a management system 200 built in accordance with the present invention. A number of customers are provided interfacing to a number of providers of perishables or scarce items. For example, a customer A 282, a customer B 284, a customer C 286, ..., and a customer N 288 are all capable of interfacing with a provider A 292, a provider B 294, a provider C 296, ..., and a provider N 298. In this specific embodiment, a goods/services management interface A 212 is resident within the provider A 292. This is one such example where the provider A 292 itself performs the interfacing with customers 282-288 and with some or all of the other providers. In contradistinction to the embodiment shown above in the Fig. 1, wherein the interfacing between the various providers and customers is performed through the single management interface 110, management interface A 212 is provided within the provider A 292 itself. Similarly, a management interface B 214 is resident within the provider B 294; a management interface C 216 is resident within the provider C 296; and a management interface N 218 is resident within the provider N 298.

If desired, a hybrid modification of the embodiment of the Fig. 1 and the embodiment of the Fig. 2 is performed in accordance with the present invention. For example, certain of the providers have resident a management interface that allows interfacing with the various customers while others perform interfacing with customers through a management interface that is operable to accommodate a number of providers. This hybrid implementation further illustrates the fact that the invention is operable individually by certain providers, and it is also operable through an external third party that performs the customer-provider interfacing for at least some of the providers.

Fig. 3 is a system diagram illustrating another embodiment of a goods/services management system 300 built in accordance with the present invention. Cost-flexible customers 382 and time-flexible customers 384 communicate with one or more of

provider A 392, a provider B 394, a provider C 396, ..., and a provider N 398 through a goods/services management circuitry 310. The goods/services management circuitry 310 is an Internet server in certain embodiments of the invention. Alternatively, the goods/services management circuitry 310 is a modem pool dial-up. In a second
5 alternative, the functions of the goods/services management circuitry 310 are performed by individuals using a telephone system to communicate with customers 380 and that or other systems to communicate with providers 392-398. Of course, any of the foregoing means for performing the functions of that circuitry may be used independently, in combination with each other, or in combination with other means. In addition, any
10 number of different circuits, hardware, and other systems are operable to perform the communication between the various customers 382-386 and providers 392-398.

As discussed previously, one characteristic of the cost-flexible customers 382 is a willingness to pay a higher price for goods or services in return for greater certainty in the date the purchased goods or services are delivered. On the other hand, a characteristic of
15 the time-flexible customers 384 is a desire to pay a lower price for goods or services and a willingness to remain somewhat flexible with regard to the date of delivery for the purchased items. In the context of common carriers, the cost-flexible customers 382 are typified by passengers that have minimal flexibility with regard to a departure date and time and are willing to pay a higher fare therefor. Likewise, the time-flexible customers
20 384 would be passengers that desire to purchase tickets at a lower fare with less regard for the departure date and time.

The goods/services management circuitry 310 itself contains, among other things, an incremental high yield circuitry 311 and a purchase/re-book circuitry 313. The incremental high yield circuitry - 311 is operable to track the total number of certain
25 items in inventory and the number of purchases of such inventory items or other transactions made by all customers including time-flexible customers 384. The incremental high yield circuitry 311 is operable to perform this functionality after being provided provider-specific yield projections. The incremental high yield circuitry 311 is also operable to monitor or project demand for such inventory items, particularly demand
30 by cost-flexible customers 382. When the total number of purchases or other transactions made by all customers begins to approach or exceeds a certain threshold, typically at or near the a time when the actual or projected demand by cost-flexible customers 382

exceeds the items remaining in inventory, the goods/services management circuitry 3 10 is operable to re-book, recall, or purchase items from time-flexible customers 384.

In certain embodiments of the invention, this certain threshold is a predetermined threshold, and in other embodiments of the invention, the threshold is adaptively modified
5 during the operation of the goods/services management system 300. The incremental sales to cost-flexible customers may be provided at premium or include additional charges, if desired, to maximize revenue.

In certain embodiments of the invention, the cost-flexible customers 382 and time-flexible-customers 384 may be customers of a single provider or pooled from two or more
10 of providers 392-398.

The purchase/re-book circuitry 313 targets the time-flexible customers 384 to perform purchase, recall, or re-booking offerings. In certain embodiments of the invention, time-flexible customers 384 are provided an incentive to return their purchased items to inventory. To further maximize revenue, time-flexible customers 384 may be
15 chosen for re-booking, recalling, or purchasing based on the amount of incentives necessary to entice them to perform that task, of course, with the lesser incentives being the most desirable. As explained further below, time-flexible customers 384 may be chosen based on any of numerous considerations.

Purchase/re-booking offerings may include any of a number of transactions that
20 provide a means for returning a good or service to inventory. In the context of common carriers, in one instance, the mechanism may be tickets that are purchased by time-flexible customers 384 with the condition that the ticket may be purchased or re-booked by the common carrier, with or without the passenger's approval as explained hereafter. A second example would be tickets sold to time-flexible customers where the departure
25 date and time would be specified by a range of dates or times with the specific departure date and time being determined at some later time before the actual departure date or time. Any of a number of different conditions and variables may be incorporated into tickets purchased by time-flexible customers 384 to accommodate for an unexpected demand by cost-flexible customers 382.

In certain embodiments of the invention, the time-flexible customers 384 are
30 provided an alternative item or simply an alternative delivery date after re-booking their initial items. In such cases, the purchase/re-book circuitry 313 further maximizes revenue

by selectively offering items or alternative delivery dates at dates and times that provide for the most efficient use of existing inventory.

Consistent with the description of Figs. 1 and 2, the functions of the goods/services management circuitry 310 may be performed in whole or in part by a third party on the behalf of or with one or more of providers 392-398. In one embodiment of the invention, one or more of those providers would communicate to the third party on a periodic bases information sufficient to identify and communicate with some or all of customers 380 that purchased a certain inventory items, and information necessary to determine the incentives necessary to entice sufficient customers to accept re-booking/purchase offers. In the context of a common carrier such as an airline, that information may include contact information, payment information, fare class, frequent flyer status, etc. for passengers on a booked flight and in some instances alternate flight availability, possibly with additional incentives provided by an airline for re-booking passengers on certain flights, typically those with actual or projected excess capacity. In another embodiment of the invention, that information would only be sent to the third party when a provider desires to re-book/re-purchase an item.

Relying further on the airline example and the use of a third party to perform all or part of the functions of the goods/services management circuitry 310, the demand supporting the re-booking/purchasing of an item may be identified and managed in a number of ways. In one embodiment of the invention, one or more of providers 392-398 may communicate to the third party a desire to re-book or purchase the tickets a certain number of passengers relying upon actual or projected demand as described previously. In another embodiment, the third party may provide notice of re-booking opportunities to any of those providers using the same means. In still another embodiment, the third party may provide such notice to any of providers 392-398 based on direct contact to the third party by one or more cost-flexible customers 382.

Fig. 4 is a system diagram illustrating another embodiment of a goods/services management system 400 built in accordance with the present invention. As discussed previously, a provider may independently practice the invention shown in this figure, or it may practice it with one or more other entities that performs some or all of its functions. The goods/services management system 400 shows how a number of customers 480 are able to perform purchases of multiple types of goods/services 430 in various manners

provided by a goods/services management circuitry 410. For example, the customers 480, shown individually as a customer A 482, a customer B 484, a customer C 486, ..., and a customer N 488, are provided interface with the circuitry of the goods/services management circuitry 410 through various manners. The circuitry offered by the
5 goods/services management circuitry 410 is a goods/services capacity/inventory tracking; circuitry 412, an automatic notification of purchase/re-book; circuitry 414, a manual notification of purchase/re-book circuitry 416; and a purchase/re-book circuitry 418. The purchase/re-book circuitry 418 is operable to communicate directly with any of the customers 480. The automatic notification of purchase/re-book circuitry 414 and the
10 manual notification of purchase/re-book circuitry 416 of the goods/services management circuitry 410 are each individually operable to communicate with any of the customers 480 via a notification/communication function 440. Various examples of the notification/communication function 440 include, among other things, e-mail 442, facsimile 444, telephone 446, ..., and any other manner of notification/communication
15 448. For example, a pager or cellular telephones are additional examples of the other manner of notification/communication 448.

The goods/services capacity/inventory tracking circuitry 412 of the goods/services management circuitry 410 is operable to monitor and manage the multiple types of goods/services 430 that are capable of being purchased by the customers 480. Examples
20 of types within the multiple types of goods/services 430 are non-refundable/non-transferable 432 and re-bookable/re-purchasable 434. The re-bookable/re-purchasable 434 type is further categorized into being conditional 434a and absolute 434b. For example, different types of goods/services are offered wherein some have filters on them that are conditional 434a and some are absolute 434b. That is to say, the degree to which
25 the re-bookable/re-purchasable 434 type of goods/services is capable of being modified is variable. In one embodiment of the invention, the customers 480 are given the opportunity to choose which type of goods/services they wish to purchase, one that is conditional 434a and/to one that is absolute 434b. For example, one of the customers 480 chooses to purchase a goods/services, perhaps at a lower price, under the condition that a
30 provider of the goods/services has the absolute right to re-book or re-purchase the goods/services. Alternatively, one of the customers 480 chooses to purchase a goods/services, perhaps at a higher price, under the condition that a provider of the

goods/services has a conditional right to re-book or re-purchase the goods/services, perhaps in only certain ways such as the date of delivery or departure of the goods/services. Many different degrees of freedom in finalizing the type of goods/services provided by a provider and supplied to a customer are included within the
5 scope of the invention. The foregoing examples are merely exemplary.

In various embodiments, the goods/services that are actually being transacted are an option for a customer to purchase the goods/services from a provider of those goods/services. In this situation, the customer no longer possesses the right to perform the purchase of the goods/services. As shown above, this relinquishment of the
10 customer's option to purchase the goods/services is absolute in some embodiments of the inventions (absolute 434b), and it is conditional (conditional 434a) in alternative embodiments. This characteristic of the goods/services, namely, the relinquishment of a customer's option to purchase the goods/services, is applicable within any of the embodiments of the invention concerning the transaction of the goods/services provided
15 by a provider as shown in the various Figures.

In certain embodiments of the invention, the goods/services management circuitry 410 performs the goods/services capacity/inventory tracking circuitry 412 and uses at least one of the automatic notification of purchase/re-book circuitry 414 and the manual notification of purchase/re-book circuitry 416 to notify one of the customers 480 of an
20 opportunity to perform the purchase/re-book circuitry 418. The goods/services management circuitry 410 is also operable simply to perform the purchase/re-book circuitry 418 of one of the goods/services without employing either of the automatic notification of purchase/re-book circuitry 414 or the manual notification of purchase/re-book circuitry 416. For example, when the type of goods/services 430 is of the absolute
25 434b type of re-bookable/re-purchasable 434 type, then the goods/services management circuitry 410 simply performs for a provider a re-book or re-purchase of the goods/services. In the context of common carriers, the invention would perform the re-book or re-purchase of the goods/services of a ticket having the absolute 434b without any notification/communication 440 with the specific one of the customers 480 to verify
30 whether the ticket may be re-booked/purchased. However, after the ticket is in fact re-booked or purchased, the invention is fully operable to provide information to that specific one of the customers 480 that his/her ticket has in fact been re-booked/purchased,

possibly including information concerning the issuance of a new ticket to that customer for an alternate flight.

Fig. 5 is a system diagram illustrating another embodiment of a goods/services management system 500 built in accordance with the present invention. The goods/services management system 500 employs a goods/services management interface 510 to interface a number of customers 580 with a volunteer database 550. The customers 580 are categorized into a cost-flexible customers 582 and time-flexible customers 584. The volunteer database 550 provides interaction with various customers, specifically targeted towards time-flexible customer 584. The volunteer database 550 contains various information pertaining to the customers 580 includes, among other things, customer contact information 552, incentives 554, re-book/re-purchase preferences 556, and provider/partnership information 561. The re-book/re-purchase preferences 556 itself contains, among other things, a time window 557, a provider preference 558, and any number of incentive preferences 559. In certain embodiments of the invention, the provider/partnership information 561 itself contains, among other things, membership 562, loyalty program 563, credit card program 564, and customer specific information 565 including customer frequent flyer miles 566 and customer membership level 567.

The goods/services management system 500 is operable to use some or all of the information within the volunteer database 550 in determining with whom re-booking and re-purchasing of goods/services should be performed. In addition, the goods/services management system 500 is operable to determine how a re-booking and re-purchasing of goods/services should be performed with a specific one of the customers within the customers 580. For example, the re-book/re-purchase preferences 556 are capable of being customer defined by one or both of the customer or provider. If desired, a customer need not provide any information to the goods/services management system 500, and the goods/services management system 500 simply tracks certain tendencies of that specific customer over time to generate his/her re-book/re-purchase preferences 556. While there is a period of time over which this specific customers the re-book/re-purchase preferences 556 are not yet in fact establishes, a default re-book/re-purchase preferences 556 is used in its stead. The time window 557 is a predetermined time window over which the customer will tolerate changes for delivery of certain goods/services. In the context of

common carriers, the time period 557 is a period during which a traveler would be willing to alter his/her itinerary, and this variation of the time period 557 is capable of being contingent upon other parameters including that specific traveler's provider preference 558 and incentive preferences 559.

5 In addition, the volunteer database 550 provides the provider/partnership information 561 to be used in performing certain of the aforementioned functions. For example, certain additional information specific to a customer within the customers 580 is used to enhance further the decision-making performed within the invention. There is an instance where alternate goods/services offered by a provider perhaps do not qualify
10 within a customers incentive preferences 559, yet upon considering additional incentives and advantages that are offered in conjunction with that customer's involvement with a membership 562 program, the loyalty program 563, the credit card program 564, or upon considering the customer specific information 565 including the customer frequent flyer miles 566 and the customer membership level 567, the threshold of incentive is such that
15 the specific customer would then be willing to allow re-booking or re-purchasing. For example, in the common carriers, in one instance, a passenger has his/her predetermined incentive preferences 559, yet the provider of the common carrier service cannot meet those incentive preferences 559. However, when the common carrier interacts with the credit card company with which the passenger is a member, the credit card company,
20 through the credit card program 564, offers additional incentives to meet the incentive preferences 559 so that the passenger is now willing to allow re-booking or re-purchasing of his ticket. Other cooperative interaction with providers of goods/services, in any number of industry contexts, are capable in accordance with the present invention.

Fig. 6 is a system diagram illustrating another embodiment of a goods/services
25 management system 600 built in accordance with the present invention. A number of customers 680, shown individually as a customer A 682, a customer B 684, a customer C 686, ..., and a customer N 688, and any number of overflow customers 689. A number of participating providers 690, and a non-participating provider 699 if desired in certain embodiments of the invention, use a goods/services management circuitry 610 to provide
30 multi-provider-booking of additional goods/services to overflow customers 614. The goods/services management circuitry 610 additionally employs goods/services capacity/inventory tracking 612 to be able to determine a situation where the overflow

customers 689 simply do not have access to the provision of goods/services by any of the participating providers 690. The various participating providers 690 each offer certain goods/services that are either common to all or different from one another. For example, a provider A 692 offers at least a goods/services A 622; a provider B 694 offers at least a goods/services B 624; and a provider N 698 offers at least a goods/services N 6.28. When a certain number of the participating providers 690 are unable to provide their specific goods/services to the overflow customers 689, the multi-provider-booking of additional goods/services to overflow customers 614 provides additional goods/services 629 to the overflow customers 689. The non-participating provider 699 is selected by the goods/services management circuitry 610 to provide the additional goods/services 629 in certain embodiments of the invention.

The goods/services management system 600 shows an embodiment of the invention that allows for multiple providers of goods/services to operate cooperatively, at certain times, to accommodate overflow customers 689 with their selected goods/services. For example, in the context of a perishable goods/services industry such as the airline industry, several participating common carriers operate cooperatively to accommodate the overflow customers 689 via the multi-provider-booking of additional goods/services to overflow customers 614 to ensure that the overflow customers 689 are provided passage to their selected destination. In the event that a sufficient number of the overflow customers 689 request passage between common destinations, an additional flight (shown as the additional goods/services 629) is scheduled from an available, aircraft operates by any of the participating providers 690. In the event that no aircraft is available from any of the participating providers 690, then the non-participating provider 699 is contacted to schedule an additional flight to accommodate the overflow customers 689. Other numerous industries dealing with perishable goods/services are equally operable within the goods/services management system 600. The airline industry example is only exemplary of the circuitry provided within the goods/services management system 600.

Fig. 7 is a functional block diagram illustrating an embodiment of a goods/services management method 1000 performed in accordance with the present invention. In a block 1010, a number of customers are identified and their business is captured in advance of the expiration, departure, or delivery date of certain items. Then in a block 1020, an increase/opportunity to capture cost-flexible customers is detected. Then, in a

block 1030, re-purchase/re-book offers are made to time-flexible customers before the goods/services perish. Subsequently, in a block 1040, the high yield goods/services are sold incrementally to cost-flexible customers as described in any of the various embodiments of the invention. In one embodiment of the invention, when the
5 goods/services are near maximum capacity, the remaining available scarce goods/services may be sold at a premium. Finally, at a decision block 1050, when all goods and services have been delivered or otherwise expired, the management method ends for those items. Alternatively, when the goods/services, are not quite yet near maximum capacity, then the goods/services management method 1000 is operable to return., as shown in the block
10 1060, to repeat the operational steps of the goods/services management method 1000. The goods/services management method 1000 is exemplary of one embodiment that helps ensure maximum profitability of all of the available goods/services that a provider can provide.

In view of the above detailed description of the present invention and associated
15 drawings, other modifications and variations will now become apparent to those skilled in the art. It should also be apparent that such other modifications and variations may be effected without departing from the spirit and scope of the present invention.

CLAIMS

What is claimed is:

1. A management system operable to manage at least one of a plurality of services and a plurality of goods, the at least one of the plurality of goods and the plurality of services being at least one of scarce and perishable, the at least one of the plurality of goods and the plurality of services is provided by a provider and is purchased by a plurality of customers, the management system comprising:

a management interface that provides communication between each customer within the plurality of customers and the provider;

- the management interface identifies the provider with at least one of an actual demand and a projected excess demand for at least one of the plurality of services and the plurality of goods; the management interface identifies a customer that desires to sell at least one of the plurality of services and the plurality of goods based on an incentive that is offered by the provider; and

- the management interface purchases at least one of the plurality of services and the plurality of goods from the customer.

2. The management system of claim 1, further comprising a volunteer database that comprises contact information pertaining to the plurality of customers and preferences corresponding to the plurality of customers; and

the management interface uses the contact information and the preferences to identify the customer.

3. The management system of claim 1, wherein at least one of the at least one of the plurality of services and the plurality of goods is re-purchasable.

4. The management system of claim 1, wherein the provider independently operates a portion of the management interface.

5. The management system of claim 1, further comprising at least one additional provider;

the provider is a participating provider;

5 the at least one additional provider is a non-participating provider; and

the non-participating provider provides at least one of an additional good and an least one additional service when the participating provider does not provide the at least one of the plurality of services and the plurality-of goods.

10 6. The management system of claim 1, wherein the provider comprises a common carrier.

7. The management system of claim 6, wherein at least one of the plurality of services comprises airline travel.

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8. The management system of claim 1, wherein the purchase of the at least one of the plurality of services and the plurality of goods from the customer by the management interface comprises a relinquishment of an option for the customer to purchase the at least one of the plurality of services and the plurality of goods from the provider.

20

9. A management system operable to manage at least one of a good and a service that is provided by a provider and is solicited by a customer, the management system comprising:

25 a management circuitry that provides communication between the customer and the provider;

the management circuitry comprises a re-purchase and re-booking circuitry that identifies a category of the customer and a preference of the customer;

the management circuitry performs capacity and inventory tracking of the at least one of the good and the service after receiving from the provider at least one of an actual demand and a projected excess demand pertaining to the at least one of the good and the service; and

5 the management circuitry performs at least one of a re-purchase and a re-sell of the at least one of the good and the service that is solicited by the customer based on at least one of the category of the customer and the preference of the customer.

10 10. The management system of claim 9, wherein management circuitry performs the at least one of a re-purchase and a re-sell of the at least one of the good and the service that is solicited by the customer based on both the category of the customer and the preference of the customer.

15 11. The management system of claim 9, wherein the at least one of the re-purchase and the re-sell of the at least one of the good and the service is performed at a premium.

12. The management system of claim 9, wherein the provider is a common carrier.

20 13. The management system of claim 9, further comprising a volunteer database, the volunteer database comprises the preference of the customer.

14. The management system of claim 9, wherein the re-purchase and re-booking circuitry that identifies at least one additional preference of at least one additional customer;

25 at least one of the preference of the customer and the at least one additional preference of the at least one additional customer comprises a cost-flexible preference; and

at least one of the preference of the customer and the at least one additional preference of the at least one additional customer comprises a time-flexible preference.

15. The management system of claim 9, wherein the at least one of the good and the
5 service is conditionally re-purchasable by the provider.

16. The management system of claim 9, wherein the performance of the at least one of
a re-purchase and a re-sell of the at least one of the good and the service that is solicited
by the customer by the management circuitry comprises a relinquishment of an option for
10 the customer to purchase the at least one of the plurality of services and the plurality of
goods from the provider.

17. A method to perform management of at least one of a plurality goods and a
plurality of services that is provided by a provider and is solicited by a plurality of
15 customers, the method comprising:

receiving at least one of an actual demand and a projected excess demand
pertaining to at least one of the plurality of goods and the plurality of services, the at least
one of an actual demand and a projected excess demand is provided by the provider;

detecting an opportunity to re-purchase at least one of a good and a service
20 selected from the at least one of the plurality of goods and the plurality of services from a
time-flexible customer that is selected from the plurality of customers, the detection is
performed using the at least one of an actual demand and a projected excess demand
pertaining to at least one of the plurality of goods and the plurality of services;

re-purchasing the at least one of the good and the service from the time-flexible
25 customer;

identifying a cost-flexible customer from the plurality of customers; and

incrementally selling the at least one of the good and the service to the cost-
flexible customer at a premium.

18. The method of claim 17, further comprising comparing a time-flexible demand to a predetermined limit of the at least one of the plurality goods and the plurality of services.

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19. The method of claim 17, wherein the re-purchasing of the at least one of the good and the service from the time-flexible customer is performed using an incentive.

20. The method of claim 17, wherein the provider is a common carrier.

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21. The method of claim 20, wherein at least one of the plurality of services comprises airline travel.

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22. The method of claim 17, wherein the re-purchasing of the at least one of the good and the service from the time-flexible customer comprises a relinquishment of an option for the time-flexible customer to purchase the at least one of the good and the service from the provider.

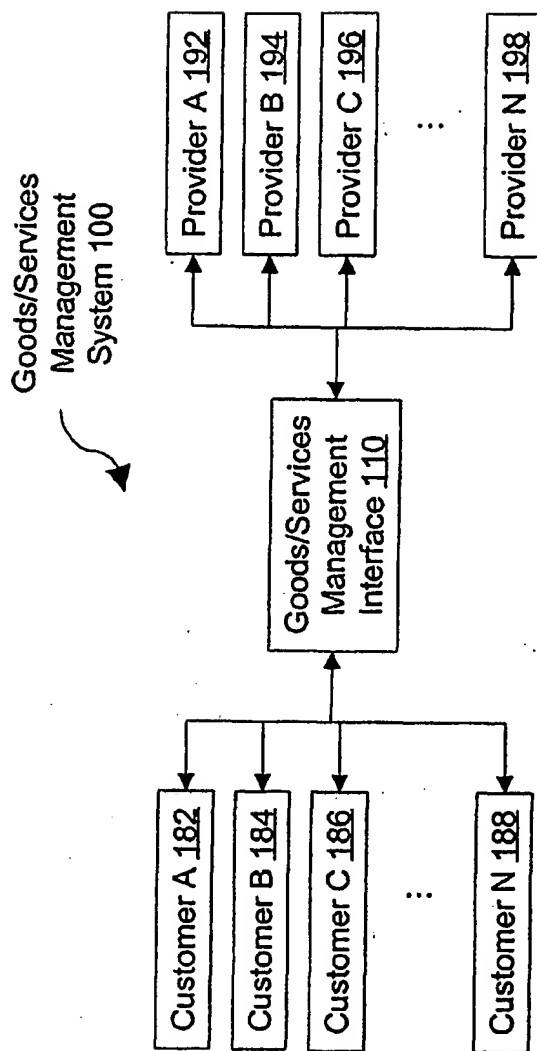


Fig. 1

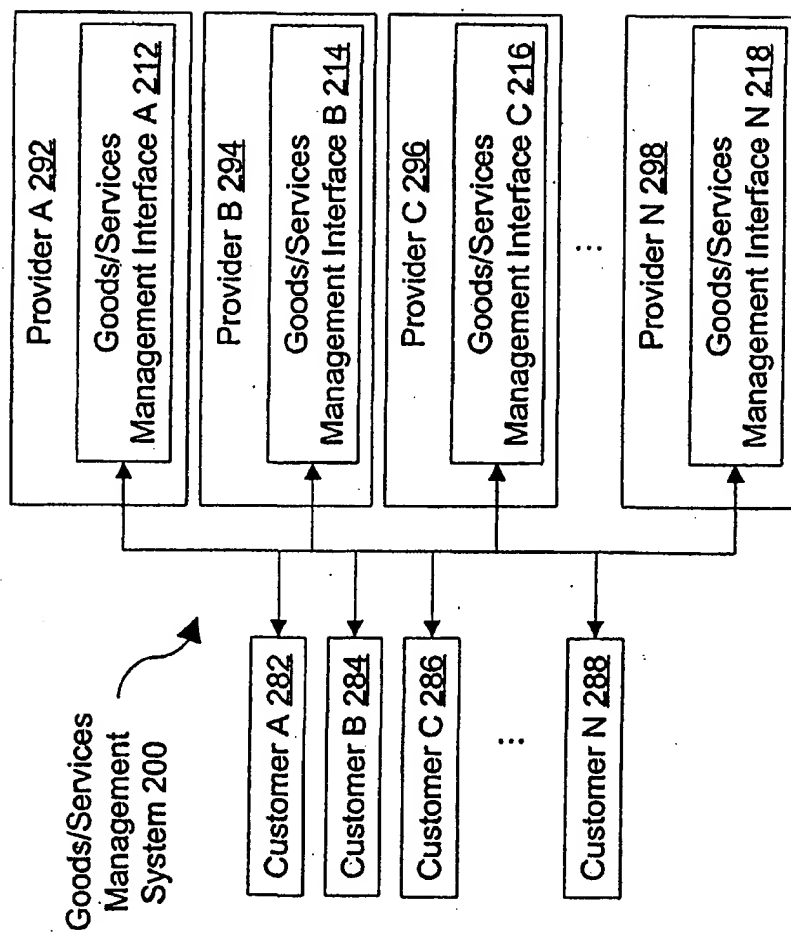


Fig. 2

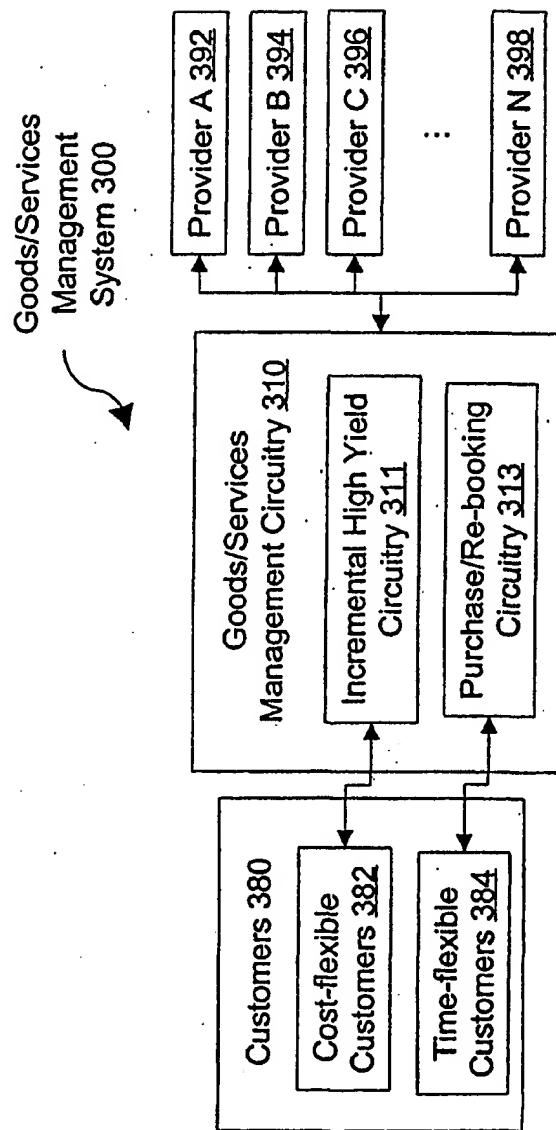


Fig. 3

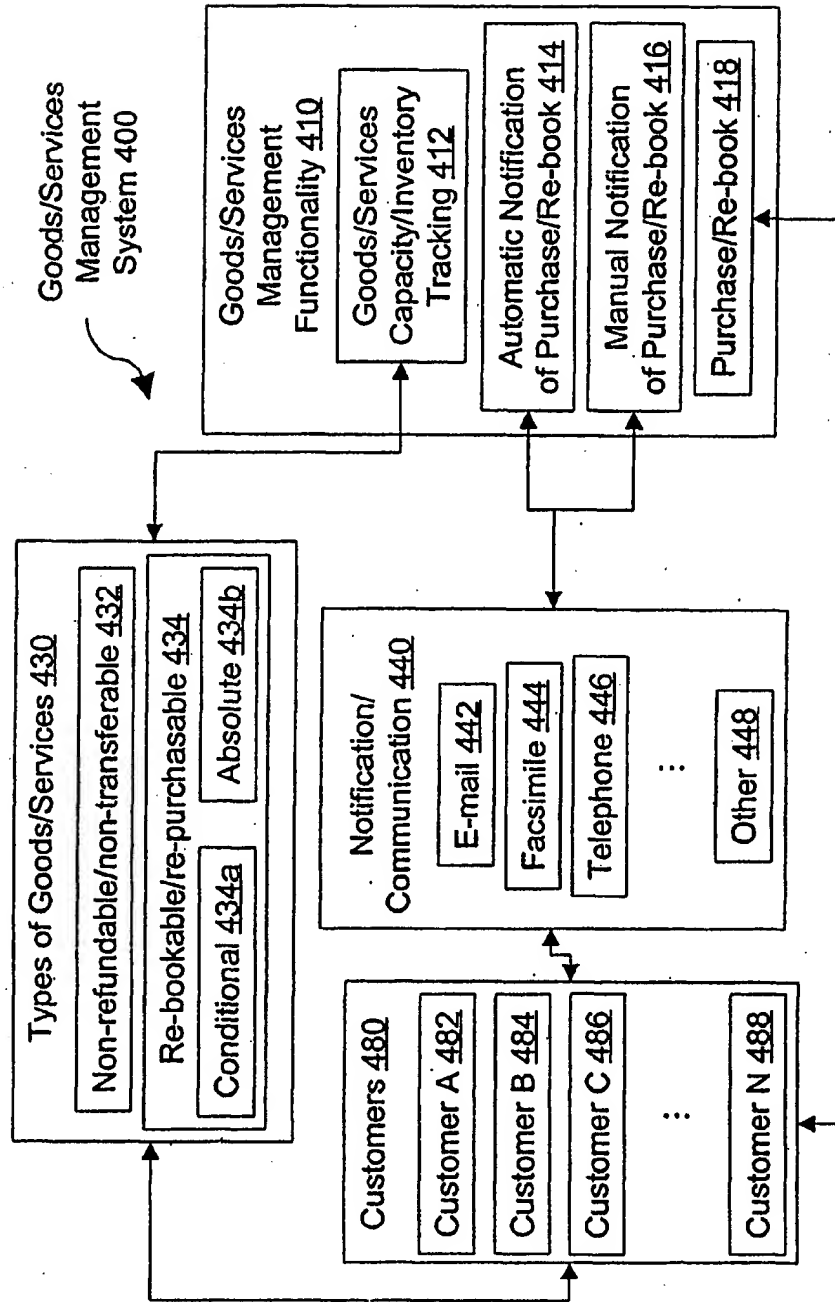


Fig. 4

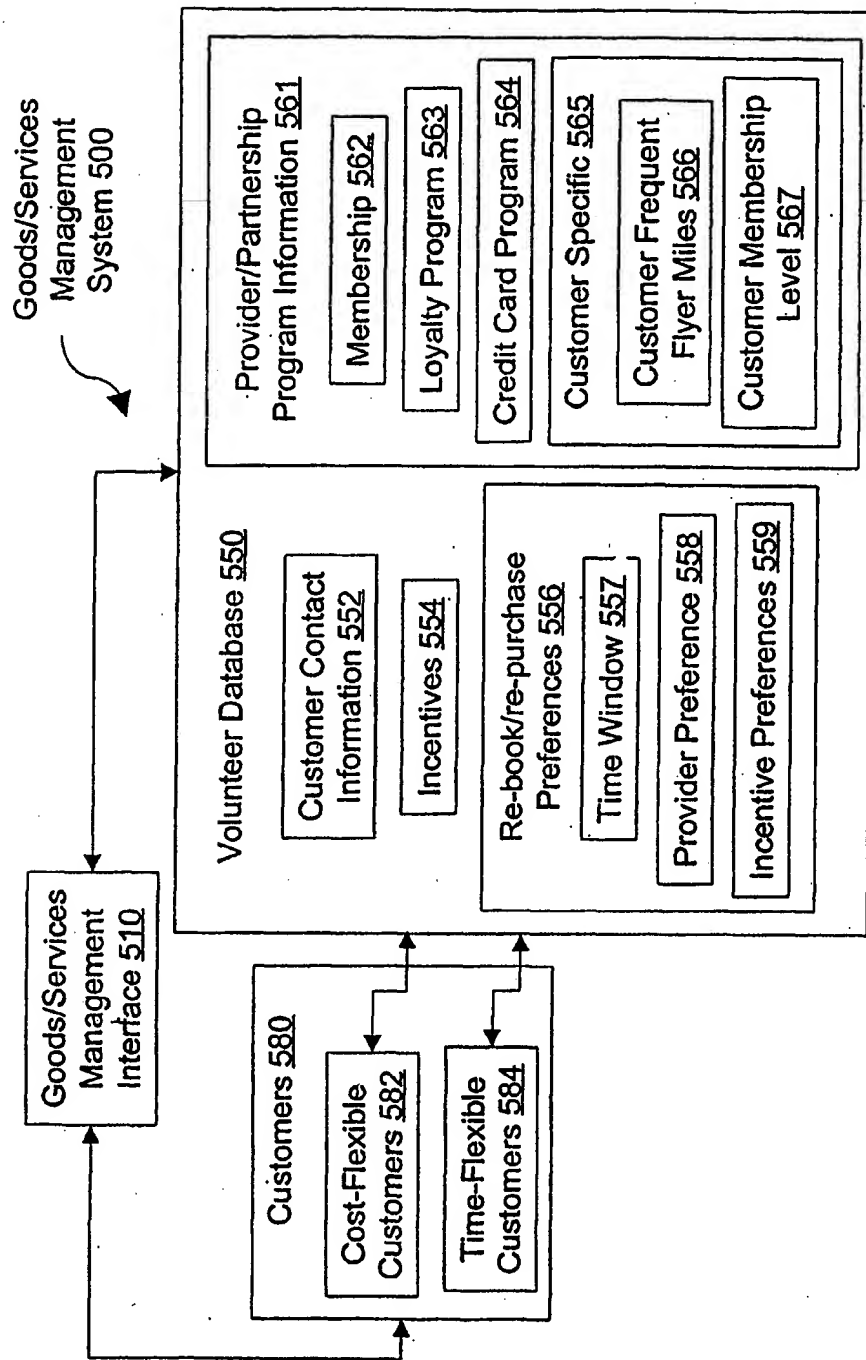


Fig. 5

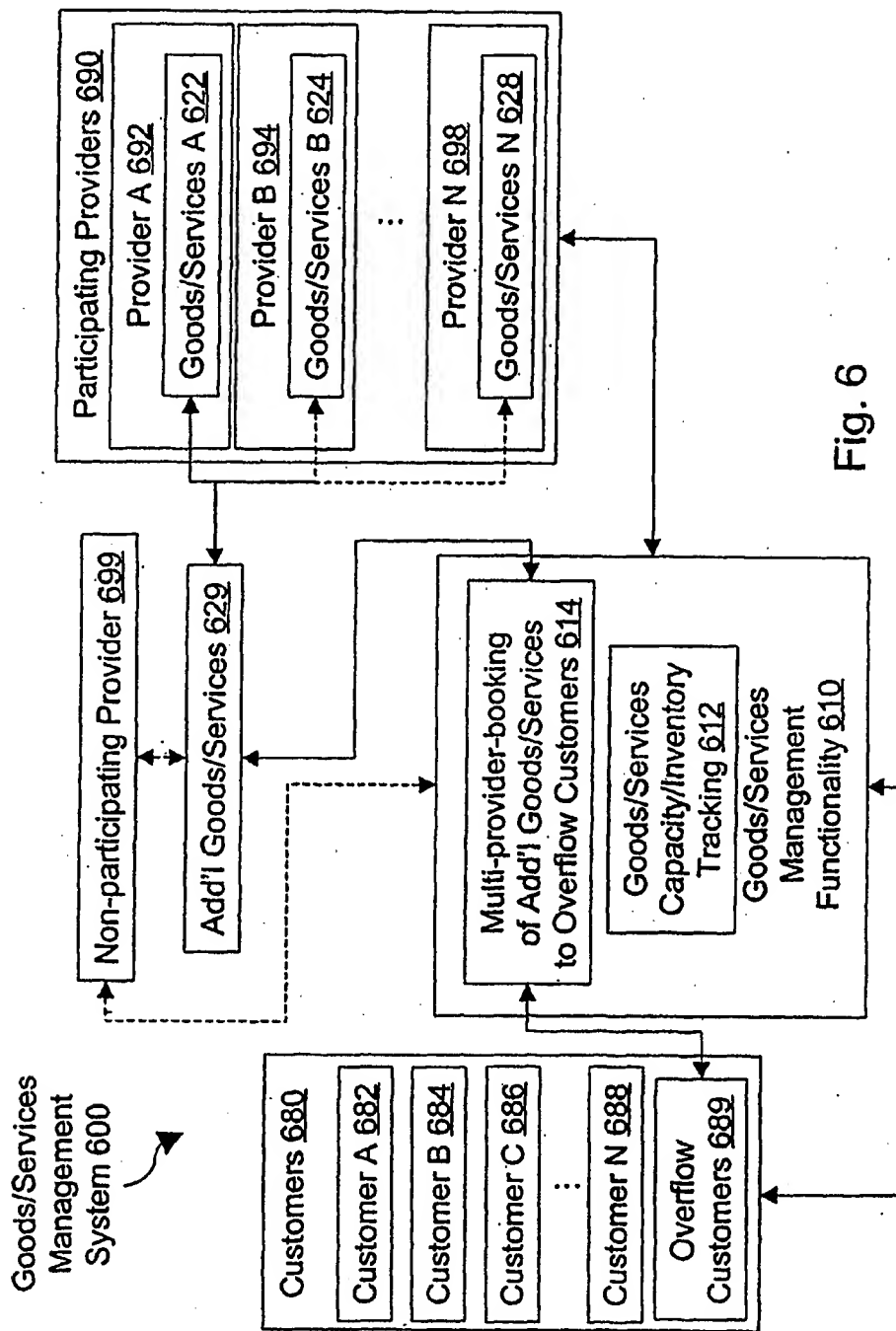


Fig. 6

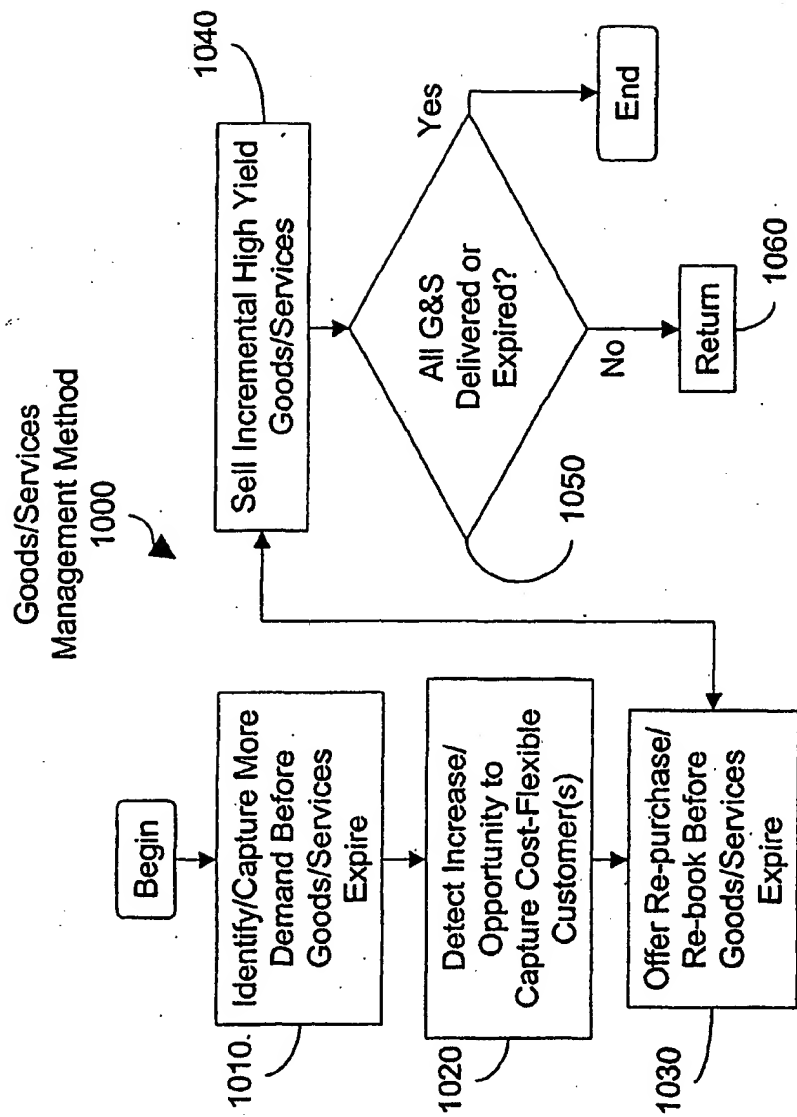


Fig. 7

PATENT COOPERATION TREATY

PCT

DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)


Applicant's or agent's file reference 41712/261317	IMPORTANT DECLARATION	Date of mailing(day/month/year) 21/09/2001
International application No. PCT/US 01/ 22499	International filing date(day/month/year) 18/07/2001	(Earliest) Priority date(day/month/year) 18/07/2000
International Patent Classification (IPC) or both national classification and IPC G06F17/60		
Applicant MCKINSEY & COMPANY, INC.		

This International Searching Authority hereby declares, according to Article 17(2)(a), that no international search report will be established on the international application for the reasons indicated below

1. ☒ The subject matter of the International application relates to:
 - a. ☐ scientific theories.
 - b. ☐ mathematical theories
 - c. ☐ plant varieties.
 - d. ☐ animal varieties.
 - e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
 - f. ☒ schemes, rules or methods of doing business.
 - g. ☐ schemes, rules or methods of performing purely mental acts.
 - h. ☐ schemes, rules or methods of playing games.
 - i. ☐ methods for treatment of the human body by surgery or therapy.
 - j. ☐ methods for treatment of the animal body by surgery or therapy.
 - k. ☐ diagnostic methods practised on the human or animal body.
 - l. ☐ mere presentations of information.
 - m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.
2. ☐ The failure of the following parts of the International application to comply with prescribed requirements prevents a meaningful search from being carried out:

☐ the description
 ☐ the claims
 ☐ the drawings
3. ☐ The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:

☐ the written form has not been furnished or does not comply with the standard.
 ☐ the computer readable form has not been furnished or does not comply with the standard.
4. Further comments:

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer María Rodríguez Nóvoa
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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 203

The subject-matter claimed in claims 17 to 22 falls under the provisions of Article 17(2)(a)(i) and Rule 39.1(iii) PCT, such subject-matter relating to a method of doing business.

Claims 1 to 16 relate to commonplace technological features for performing the business method of the method claims. Although these claims do not literally belong to the method category, they essentially claim protection for the same commercial effect as the method claims. With reference to the Guidelines, B-VIII, points 1-6, the International Searching Authority considers that searching such commercial features would serve no useful purpose. This applies to the remaining commonplace technological features of these claims as well.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.